Micro Case 70: Bacteroides Fragilis

27 y/o male with high fever, diffuse lower abdominal pain and loss of appetite

CT showed intra-abdominal fluid collection consistent with abscess in RLQ

B. fragilis: gram negative, nonspore forming rod, 1-2% of normal flora of GI tract, anaerobic

-thick polysaccharide capsule, not toxic LPS

Causes endogenous infection

Pathogenesis: presence of abscess means break in normal barriers, synergistic presence of a facultative anaerobe is required for disease (ex K.lebsiella pneumoniae helps utilize oxygen and lowers redox potential)

-invasion -> rapid mobilization of PMNs attracted by IL-8, bacteria resist phagocytosis due to capsule and continue to grow -> PMNs unable to clear infection adhere to cells and an abscess develops “walling off infection”

Treatment: surgical drainage and abx therapy (metronidazole, cefoxitin, clindamycin, etc)